

## KE PROGRAMME FOUR-MONTHLY REPORT

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|----------------------|--|--|
| Name of KE Programme | <b>Water Security Knowledge Exchange Programme</b> |  |
| KEP Lead             | <b>Prof Alan Jenkins</b>                           |  |
| Reporting Period     | <b>From: 1<sup>st</sup> August 2012</b>            | <b>To: 30<sup>th</sup> November 2012</b> |
| Date of submission   | <b>9<sup>th</sup> January 2013</b>                 |  |
| Signed               | <b>Alan Jenkins</b>                                |  |

### 1. Key Activities

*Please list key activities, meetings, workshops etc. that the KEP has undertaken or participated in this period*

The report below lists the key activities and achievements by Work Package (WP), during the reporting period. (**Section 2 below, lists outputs and Section 3 lists key outcomes and impacts.**) All of the work described was planned and took place before the final agreement on the new Programme Framework (PF) was received.

#### **WP1- Identify key needs and science challenges faced by the users**

WP1 had been completed in Phase 1 of the Programme, however, the new PF has introduced two new tasks. The first (Task 1.5) is to revise the plan for the Phase 2 Data Sub Area. Phase 1 users identified two Sub-Area Topics (Data and Water Quality) as priorities for Phase 2 of the Programme. After consulting the Programme Advisory Group (PAG), the Data topic, will be restructured to deliver a greater relevance to industry by working with the Environmental Virtual Observatory (EVO) project. A revised plan for this topic will be developed in the next period. The Water Quality Sub Area Topic could be taken forward if, through one to one discussions with businesses, it is also considered an important topic to address.

The second new task (Task 1.6) is to engage with businesses to determine their KE needs in relation to water security. During this period, possible businesses to be approached have been identified. The process of gathering background information on the different companies has begun and will continue into the next period. Discussions can then be had and followed up where appropriate. (See WP6 for information on Case studies.)

#### **WP2 - Identify the science that matches the key needs and challenges of the users**

The new PF has added two new tasks to this WP, Tasks 2.4 and 2.5 (see below). The original three parts to this WP can be grouped together as the creation of a Research Directory (<http://www.ukwaterresearch.net/>). It lists PI's and Co-PI's of freshwater projects in the NERC Grants on the Web (GOTW), and is further enhanced with details of a) researchers who have attended WSKEP events, b) from web searching University websites, or c) researchers who have self-registered their interest in being included in the Directory. During this reporting period we have implemented a facility for researchers to add their scientific output to the site. Existing entries were contacted and requested to submit any relevant outputs and new registrations will automatically be asked to provide appropriate details. The other new aspect to the Directory is information on water research and demonstration facilities in the UK. A page has been set up on the site where those responsible for such facilities can record information about them to provide the first comprehensive listing for the UK. This will be more widely advertised in the next period.

The first new task (Task 2.4) is to identify and distil from past, current and future NERC funded Research Programmes (RP), industry specific outputs and potential impacts. Initial work on this has begun by identifying who holds this information. Existing RP Programme Offices have been contacted as well as the NERC Science Delivery team. The PMG will prepare a report during the next reporting period.

The second new task (Task 2.5) is to establish an Industry Impact Award Scheme where proposals are invited for small knowledge exchange grants. The description of the Scheme has been prepared. During the next reporting period, it will be checked for legalities and announced so that Grants can be awarded to start in April 2013.

#### **WP3 - Organise Events and Activities to bring together the users and scientists**

This Work Package is divided into three parts, 1) the management of KE events in support of Sub Areas, 2) activities with users to identify areas where WSKEP could support their programmes of work and 3) activities to increase impact from recent Research Programmes. From part 1 of this WP, the Sub Area Workshops run in Phase 1 and the subsequent Development meeting recommended various actions to take forward. These have been added to this WP as new tasks and will be described below.

For part 1 of this WP, during the reporting period the final Summary reports and overview statement from the Phase 1 Workshops were published on the website. One of the objectives of the Workshops was to initiate collaboration between the researchers and users that attended. The Programme Management Group (PMG) commissioned Richard Blackmore of Research Impact Consulting to gather information by questionnaire about these collaborations and recommend new approaches that could be included in any future workshops to increase the

number and effectiveness of post-event collaborations. The report 'Collaborations arising from WSKEP Workshops' has now been published on the website. Out of 70 delegates who responded, 50 reported having identified opportunities for collaboration. Task 3.1a is to take forward the Data Sub Area. This will be done once Task 1.5 is complete (see above). Task 3.1b is a new task to review the efficacy of communication plans for drought conditions during the 2010 – 2012 drought. The EA has published its report 'Review of the 2010-12 drought and prospects for water resources in 2013' (<http://www.environment-agency.gov.uk/research/library/publications/131328.aspx>). Since then the PMG have been in discussion with Waterwise to see what can be done to improve communication with the general public about water saving initiatives.

For part 2 of this WP, User Based Activities during this period have focussed on the tasks in the new PF. In response to a Defra/EA request (Task 3.2b), WSKEP has developed and launched a web based tool called e-Respond (<http://www.e-respond.net/>) which enables Defra/EA staff to pose questions for which they are seeking advice from the research community. Task 3.2c is a new task to raise the profile of health impacts of extremes. The PMG and BGS are currently in discussion with the Health Protection Agency. Task 3.2e is another new task to identify synergies between agricultural and water utility users around the management of water. The PMG held a meeting with AMEC who have subsequently prepared a proposal. Task 3.2g is about engaging with businesses to facilitate access to NERC knowledge. This is an ongoing process and is partially covered by two WSBF round table discussions on 13<sup>th</sup> Dec 2012 and 28<sup>th</sup> Jan 2013. WSKEP has supported the involvement of academics in water innovation actions being run by trade and professional associations – eg. CIWEM, British Water.

Two new tasks have been added to the third part of this WP as a result of the PF. Task 3.3a is about synthesising outputs from recent and current ecosystem services research initiatives. The PMG are investigating how best to do this and have spoken with Bruce Howard. The other new task, Task 3.3b, is to review plans for Current RPs and identify potential decision support tools. Again the PMG are in the process of gathering this information and hope to make it available in the next reporting period.

#### **WP4 - Connect and coordinate KE across NERC**

This Work Package is in two parts, 1) is about connecting and communicating with other groups whilst part 2) concerns the management and maintenance of the WSKEP website. No new tasks have been added to this WP.

**KE Networks:** In the previous reporting period, WSKEP supported the NERC Catchment Change Network (CCN) by putting in place new funding lines which would take the network beyond the end dates of its NERC funding. WSKEP also highlighted the need for additional funding for CCN to Defra/EA and supported a researcher-stakeholder workshop in May to identify relevant knowledge to support a knowledge hub for the Defra/EA Pilots. Since then the network has been making progress with its new funding in place.

**KE Fellows:** WSKEP undertakes activities to support and add value to the NERC KE Fellows. WSKEP attended a NERC Knowledge Exchange Network (KEN) meeting in Southampton on 28<sup>th</sup> Nov 2012 which was also attended by 9 KE Fellows, 4 of which work on water related subjects. This provided an opportunity to network as well as to identify the NERC M&S Fellow who had only just been appointed. Unilever/Heineken Fellows were also present.

**Other KE Programmes:** The MRE KEP was also represented at the KEN meeting. The WSKEP team were able to discuss progress and experiences with them and subsequently exchanged information regarding the development of case studies.

**Other KE Networks:** WSKEP have commissioned Alastair Moseley to undertake a mapping of professional, trade associations, societies or informal interest groups involved in water related knowledge exchange activities. The mapping involves a compilation of the description of the activities undertaken and subjects covered by these networks and includes contact details and web addresses. This report is nearly complete.

Dan Osborn is the NERC Lead on LWEC and WSKEP have met with him to discuss ways to collaborate on the GO-Science LWEC UK Water Research and Innovation Partnership (UK WRIP) Initiative. WSKEP has offered support to Louise Heathwaite to organise a Think Tank for the environmental and climate KE Action Group of the UKWRIP.

The WSKEP website (<http://www.wskep.net/index.php>) has grown and developed during the reporting period. It has now become a well respected site for water security information. The events calendar is kept up to date with WSKEP and other national and international conferences and meetings. Newsletters (e-zines) are sent out monthly highlighting WSKEP activities and others supported by the Programme. Tweets are posted every day as well as when the website is updated. WSKEP now has over 320 followers.

#### **WP5 - Communicate with the science and user communities**

This Work Package is in two parts, 1) is about writing and maintaining a Communication Plan whilst part 2) is about organising a High Level event.

The WSKEP Communication Plan is a living document and updated regularly. The latest version will be presented at the next PAG meeting on 23/1/2013.

The purpose of a High Level Event is to raise the profile of NERC science being used by businesses. The PMG have been discussing what shape this might take. It could be a series of actions delivering a themed message instead of a single one off, one day event. WSKEP could orchestrate a campaign that culminated at a Parliamentary event in October 2013 and be an opportunity to invite Duncan Wingham. A draft proposal will be presented at the next PAG meeting for their advice in how to take this task forward.

## WP6 - Act as a KE Ambassador

This WP is an ongoing activity whereby the good practice in relation to KE is shared among the NERC community. Opportunities to share experiences have been undertaken whenever possible. WSKEP has interacted with other NERC KE networks and programmes, those of other Research Councils, other University led proposals, initiatives by sponsored government departments and devolved governments, trade and professional associations and European and international KE networks. Across this wide range of communities, WSKEP has been able to highlight NERC's commitment to, and leadership in water related knowledge exchange.

## WP7 - Manage the WSKEP

This WP relates to the management of the Programme by the PMG. The PMG meets on a monthly basis to discuss progress, issues and upcoming events. Minutes are prepared for all meetings and actions are followed up.

The PAG consists of individuals who volunteer their time and who have been selected in order to provide a diverse range of insights into water KE related issues. The fifth PAG meeting was held on 11th September 2012 at BIS in London and was minuted and actions completed.

The PMG monitors the Programme budget and actions are revised in the light thereof. It also regularly updates a risk register which is reviewed at the PAG meetings. The PMG has completed the fourth Interim report to the NERC KE Advisory Board.

## 2. Key Outputs

*Please list and summarise the key outputs generated from KEP activities in this period (i.e. projects, partnerships, reports etc)*

- Workshop Full Participant Outcomes Reports (for all ten Workshops)
- Workshop Summary Reports (for all ten Workshops) ([http://www.wskep.net/workshop\\_outputs.php](http://www.wskep.net/workshop_outputs.php))
- Workshop Full Participant Outcomes Reports for the Sub Area Development Meeting
- Overview of Sub Area Development Meeting report ([http://www.wskep.net/subarea\\_devel.php](http://www.wskep.net/subarea_devel.php))
- UK Water Research Directory - researcher scientific outputs added (<http://www.ukwaterresearch.net/>) and research and demonstration facilities page added (<http://www.ukwaterresearch.net/>)
- FWR Newsletter lead article 'WSKEP soaking up Knowledge – A novel approach to supporting sustainable and resilient management of droughts' (<http://www.euwfd.com/FWR-Newsletter10-0.pdf>)
- Launch of e-respond tool (<http://www.e-respond.net/>)
- The Westminster Sustainable Business Forum - 'Sustainable Solutions: Raising the water mark' (<http://www.wskep.net/news.php?id=196>)
- All Party Parliamentary Water Group – 'Making Innovation a Reality' Brochure (<http://www.wskep.net/news.php?id=201>)
- 'Collaborations arising from WSKEP Workshops' report by Richard Blackmore (<http://www.wskep.net/news.php?id=200>)
- A short guide to Water related searches written by WSKEP and Envirobase team members.

## 3. Key Outcomes and Impact

*Please provide details of the outcomes and impact KEP outputs have generated during this period (i.e. the 'so what' factor)*

The Research Directory will allow the business community to search for and contact researchers working on problems relevant to their areas of interest. Industry networks have expressed an interest in taking over the Directory, and in developing complementary functionality with their own web-based tools.

Richard Blackmore's report showed that participants at the Workshops made new contacts and were developing collaborative research (eg Manchester airport with Lancaster University), and forming agreements to work together on submitting proposals and winning bids. Of the 70 participants that responded 27 had initiated collaborations in the short time frame since the Workshop series ended.

WSKEP support for the NERC CCN has enabled this network to remain the preferred route for delivery of a knowledge hub for the Defra/EA catchment based approach. WSKEP support has also ensured that other NERC data, knowledge and expertise will be an integral part of the next generation of web based knowledge provision to stakeholders (third sector organisations, industries, consultants and government bodies) involved in implementing the catchment based approach across England and Wales.

The methodology for writing Synthesis Reports is being trialled across several parts of the EA and is expected to define best practice for Defra/EA methods to access knowledge / evidence from the research base.

KE Fellows – The WSKEP has enabled KE Fellows Viki Hurst (Leeds), Rachel Dearden (BGS) and Tobias Kruger (UEA) to increase the involvement of key users in their activities. It is expected that WSKEP will assist them to increase the involvement on industry users in their respective activities. WSKEP will be talking with Claire Quinn to see if it can help her with her challenge at M&S.

There has been wide ranging positive feedback from different user groups concerning the functionality and contents of the WSKEP website. Analysis of visitor statistics indicates that visitors are coming from a wide range of sectors and many different research establishments. Oct and Nov 2012 showed the highest visitor numbers to date over 1100 per month. These statistics also show that the e-zine is being opened and read by 14% (industry accepted standard is 7%) of those on the distribution list, seeking further information about different news stories and events.

#### 4. Progress against deliverables due during this reporting period or delayed from a previous period (this list has been revised to match the new Programme Framework Oct 2012 – Mar 2014)

| Task | Task name   | Output   | Proposed end date  | Actual end date     | Reason for deviation |
|------|---|--|--|---------------------|----------------------|
|      |   |  | <b>End</b>   |                     |                      |
| 1.5  | Revise the plan for the Data Sub Area   | Revised plan   | May 2013   |                     |                      |
| 1.6  | Engage with businesses to determine their KE needs  | Case studies   | Nov 2013   |                     |                      |
| 2.3a | Add scientific outputs to the UK Water Research Directory   | Database   | Ongoing to Mar 2014  | Ongoing to Mar 2014 |                      |
| 2.3b | Add information on water research and demonstration facilities  | Info on the website  | Ongoing to Mar 2014  | Ongoing to Mar 2014 |                      |
| 2.3c | Identify industry relevant offers from researchers who attended WSKEP SPS workshops   | Report   | Mar 2013   |                     |                      |
| 2.4  | Identify and extract industry specific outputs from NERC funded RPs   | Report   | Mar 2013   |                     |                      |
| 2.5  | Establish the Industry Impact Award scheme  | Award scheme   | Mar 2014   |                     |                      |
| 3.1a | Take the Data Sub Area forward  | Report   | Sept 2013  |                     |                      |
| 3.1b | Review of assessment of communication plans for drought conditions during the 2010-2012 period                                      | Comms plans  | Sept 2013  |                     |                      |
| 3.2a | Organise one-to-one activities with key industry sectors contacted during User Based Activities of the first phase of WSKEP         | Varied   | Ongoing to Mar 2014  | Ongoing to Mar 2014 |                      |
| 3.2b | Organise one-to-one activities with policy makers and regulators contacted during User Based Activities of the first phase of WSKEP | Varied   | Ongoing to Mar 2014  | Ongoing to Mar 2014 |                      |
| 3.2c | Raise the profile of health impacts of extremes   | Report   | Feb 2013   |                     |                      |
| 3.2d | Engage with stakeholders about their operational risk assessments   | Initial meeting with WaterUK, possibly leading to further actions. | Initial meeting Dec 2012 Time frame for further actions will be updated. |                     |                      |
| 3.2e | Identify synergies between different users around management of water   |  |  |                     |                      |
| 3.2f | Engage with stakeholders about anticipating future change and implications for policy and businesses                                |  |  |                     |                      |
| 3.2g | Engage with businesses to facilitate access to NERC knowledge   | Initial mtg with Coca Cola and M&S etc.                            | Nov 2013   |                     |                      |
| 3.3a | Synthesise outputs from ecosystem services research initiatives   | Report   | Mar 2013   |                     |                      |
| 3.3b | Review plans for current RPs and identify existing and potential decision support tools   | Report   | Mar 2013   |                     |                      |
| 3.3c | Outputs from WSBF round table meetings  | Reports  | Ongoing to Mar 2014  | Ongoing to Mar 2014 |                      |
| 4.1  | Inform SIM's, to improve industry involvement in NERC RP's  | Inc industry attendances at Town mtg                               | Ongoing to Mar 2014  | Ongoing to Mar 2014 |                      |
| 4.2  | Liaise with the other KE Programmes   | Meetings / discussions   | Ongoing to Mar 2014  | Ongoing to Mar 2014 |                      |
| 4.3  | Manage information relating to KE and research funding calls  | Info on the website  | Ongoing to Mar 2014  | Ongoing to Mar 2014 |                      |
| 4.4  | A compendium of case studies  | Info on the website  | Ongoing to Mar 2014  | Ongoing to Mar 2014 |                      |

|      |  |                     |                     |                     |  |
|------|--|---------------------|---------------------|---------------------|--|
| 4.5  | A calendar of KE events                          | Info on the website | Ongoing to Mar 2014 | Ongoing to Mar 2014 |  |
| 4.6  | Management of a register of KE activities        | Info on the website | Ongoing to Mar 2014 | Ongoing to Mar 2014 |  |
| 4.7  | Maintenance and management of the WSKEP website  | Website             | Ongoing to Mar 2014 | Ongoing to Mar 2014 |  |
| 5.1a | Maintain and update the Communication Strategy   | Report              | Ongoing to Mar 2014 | Ongoing to Mar 2014 |  |
| 5.1b | Prepare a glossy brochure                        | Report              | Feb 2013            |                     |  |
| 5.2  | Organise a High Level Event                      | Event               | Oct 2013            |                     |  |
| 6.1  | Prepare six industry case studies (See Task 1.6) | Case study          | Nov 2013            |                     |  |
| 6.2  | Presentations to disseminate good KE practice    | Presentation        | Ongoing to Mar 2014 | Ongoing to Mar 2014 |  |
| 7.1  | Organise PAG meetings                            | Meetings            | Ongoing to Mar 2014 | Ongoing to Mar 2014 |  |
| 7.4  | Prepare Interim and Annual reports               | Reports             | Ongoing to Mar 2014 | Ongoing to Mar 2014 |  |
| 7.5  | Prepare an end of Programme Evaluation Report    | Report              | Mar 2014            |                     |  |

## 5. Key problems / Lessons learnt

*Please identify any problems or serious risks (e.g. technical, financial) that have prevented the achievement of planned targets for this period or that are likely to affect the programme in the future; please comment on any mitigation plans / lessons learnt as a result of these issues.*

It has taken considerable time for industry groups to understand what WSKEP is seeking to do, and how it can complement industry wide needs from knowledge and innovation. This underlines the fact that building stronger research-user collaboration is a long term process. While the development processes have been quite slow with some industry groups, once decisions are made to proceed, industry groups expect actions to start very quickly.

## 6. Key Opportunities

*Please summarise key opportunities for the KEP and/or NERC identified during this period*

The UKWRIP is a potentially powerful mechanism to build long term improvements in the UK's water related knowledge exchange. WSKEP has sought to support the UKWRIP wherever possible.

RCUK Water Interest Group is organising a Water Showcase in March 2013 which WSKEP will support.

Influences of specific interactions by WSKEP at company / industry levels may provide new insights into how to enhance approaches to pathways to impact at project and Research Programme levels.

Awareness of the new Research Programme six monthly reporting process may lead to more effective approaches to increasing KE activity by the WSKEP group.

## 7. Plans for the next period

*Please summarise key activities planned for the next period and provide details of plans already in place to achieve these*

Activities planned for the next period include the following:

- Advertise the research and demonstration facility's page in the UK Water Research Directory
- Sponsorship of various CIWEM conferences
- Sixth PAG meeting on 23<sup>rd</sup> January
- Plan the Phase 2 Data Sub Area
- Set work in motion for various parts of Task 3.2 (see Section 1 above)
- Implement the Industry Impact Award scheme

## 8. Other

*Please provide any additional information which helps to describe progress in this period*

There is no additional information to report during this period.